<110> MIZE, ET AL

<120> NOVEL INTERLEUKIN-1 HY2 MATERIALS AND METHODS

<130> 28110/36858A

<140> US 10/003,671
<141> 2001-11-02

<150> US 60/245,346
<151> 2000-11-02

<160> 26

<170> PatentIn version 3.1

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<213> Homo sapiens

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tgt tcc ctc ccc atg gca aga tac tac ata att aaa tat gca gac cag   104
Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala Asp Gln
            5                   10                  15

aag gct cta tac aca aga gat ggc cag ctg ctg gtg gga gat cct gtt   152
Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp Pro Val
        20                  25                  30

gca gac aac tgc tgt gca gag aag atc tgc aca ctt cct aac aga ggc   200
Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Thr Leu Pro Asn Arg Gly
        35                  40                  45

ttg gac cgc acc aag gtc ccc att ttc ctg ggg atc cag gga ggg agc   248
Leu Asp Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly Gly Ser
50                  55                  60                  65

cgc tgc ctg gca tgt gtg gag aca gaa gag ggg cct tcc cta cag ctg   296
Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu Gln Leu
                70                  75                  80

gag gat gtg aac att gag gaa ctg tac aaa ggt ggt gaa gag gcc aca   344
Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu Ala Thr
                85                  90                  95
```

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cgc ttc acc ttc ttc cag agc agc tca ggc tcc gcc ttc agg ctt gag       392
Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg Leu Glu
        100             105             110

gct gct gcc tgg cct ggc tgg ttc ctg tgt ggc ccg gca gag ccc cag       440
Ala Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro Gln
        115             120             125

cag cca gta cag ctc acc aag gag agt gag ccc tca gcc cgt acc aag       488
Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg Thr Lys
130             135             140             145

ttt tac ttt gaa cag agc tgg tag ggagacagga aactgcgttt tagccttgtg      542
Phe Tyr Phe Glu Gln Ser Trp
                150

cccccaaacc aagctcatcc tgctcagggt ctatggtagg cagaataatg tcccccgaaa     602

tatgtccaca tcctaatccc aagatctgtg catatgttac catacatgtc caaagaggtt     662

ttgcaaatgt gattatgtta aggatcttga aatgaggaga caatcctggg ttatccttgt     722

gggctcagtt taatcacaag aaggaggcag gaagggagag tcagagagag aatggaagat     782

accatgcttc taattttgaa gatggagtga ggggccttga gccaacatat gcaggtgttt     842

ttagaaggag gaaaagccaa gggaacggat tctcctctat agtctccgga aggaacacag     902

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ataaaataat aaacttgtgt tattgtaaac ctctgg                               998


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<213>  Homo sapiens

<400>  2

Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala Asp
1               5               10              15


Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp Pro
                20              25              30


Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Thr Leu Pro Asn Arg
            35              40              45


Gly Leu Asp Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly Gly
        50              55              60


Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu Gln
65              70              75              80


Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu Ala
                85              90              95
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-2-

G2

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Thr Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg Leu
            100             105                 110

Glu Ala Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro
        115             120                 125

Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg Thr
    130             135                 140

Lys Phe Tyr Phe Glu Gln Ser Trp
145             150
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   Phe Gln Glu Leu Arg Ile Cys Ser Glu Asp Gln Thr Pro Leu Ile
   1               5                   10                  15

gca gga atg tgt tcc ctc ccc atg gca aga tac tac ata att aaa tat      95
Ala Gly Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr
                20                  25                  30

gca gac cag aag gct cta tac aca aga gat ggc cag ctg ctg gtg gga     143
Ala Asp Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly
                35                  40                  45

gat cct gtt gca gac aac tgc tgt gca gag aag atc tgc aca ctt cct     191
Asp Pro Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Thr Leu Pro
            50                  55                  60

aac aga ggc ttg gac cgc acc aag gtc ccc att ttc ctg ggg atc cag     239
Asn Arg Gly Leu Asp Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln
    65                  70                  75

gga ggg agc cgc tgc ctg gca tgt gtg gag aca gaa gag ggg cct tcc     287
Gly Gly Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser
80                  85                  90                  95

cta cag ctg gag gat gtg aac att gag gaa ctg tac aaa ggt ggt gaa     335
Leu Gln Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu
                100                 105                 110

gag gcc aca cgc ttc acc ttc ttc cag agc agc tca ggc tcc gcc ttc     383
Glu Ala Thr Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe
                115                 120                 125

agg ctt gag gct gct gcc tgg cct ggc tgg ttc ctg tgt ggc ccg gca     431
Arg Leu Glu Ala Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala
                130                 135                 140
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-3-

a2

```
gag ccc cag cag cca gta cag ctc acc aag gag agt gag ccc tca gcc      479
Glu Pro Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala
    145                 150                 155

cgt acc aag ttt tac ttt gaa cag agc tgg tag ggagacagga aactgcgttt    532
Arg Thr Lys Phe Tyr Phe Glu Gln Ser Trp
160                 165

tagccttgtg cccccaaacc aagctcatcc tgctcagggt ctatggtagg cagaataatg    592

tcccccgaaa tatgtccaca tcctaatccc aagatctgtg catatgttac catacatgtc    652

caaagaggtt ttgcaaatgt gattatgtta aggatcttga aatgaggaga caatcctggg    712

ttatccttgt gggctcagtt taatcacaag aaggaggcag gaagggagag tcagagagag    772

aatggaagat accatgcttc taattttgaa gatggagtga ggggccttga gccaacatat    832

gcaggtgttt ttagaaggag gaaaagccaa gggaacggat tctcctctat agtctccgga    892

aggaacacag ctcttgacac atggatttca gctcagtgac acccatttca gacttctgac    952

ctccacaact ataaataat aaacttgtgt tattgtaaac ctctgg                    998
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<213> Homo sapiens

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Phe Gln Glu Leu Arg Ile Cys Ser Glu Asp Gln Thr Pro Leu Ile Ala
1               5                   10                  15

Gly Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala
                20                  25                  30

Asp Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp
            35                  40                  45

Pro Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Thr Leu Pro Asn
    50                  55                  60

Arg Gly Leu Asp Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly
65                  70                  75                  80

Gly Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu
                85                  90                  95

Gln Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu
            100                 105                 110

Ala Thr Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg
            115                 120                 125
```

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G2

```
Leu Glu Ala Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu
    130             135             140

Pro Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg
145                 150             155                 160

Thr Lys Phe Tyr Phe Glu Gln Ser Trp
                165
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<213>   Homo sapiens

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Met Val Leu Ser Gly Ala Leu Cys Phe Arg Met Lys Asp Ser Ala Leu
1               5               10              15

Lys Val Leu Tyr Leu His Asn Asn Gln Leu Leu Ala Gly Gly Leu His
            20              25              30

Ala Gly Lys Val Ile Lys Gly Glu Glu Ile Ser Val Val Pro Asn Arg
        35              40              45

Trp Leu Asp Ala Ser Leu Ser Pro Val Ile Leu Gly Val Gln Gly Gly
    50              55              60

Ser Gln Cys Leu Ser Cys Gly Val Gly Gln Glu Pro Thr Leu Thr Leu
65              70              75                      80

Glu Pro Val Asn Ile Met Glu Leu Tyr Leu Gly Ala Lys Glu Ser Lys
                85              90                      95

Ser Phe Thr Phe Tyr Arg Arg Asp Met Gly Leu Thr Ser Ser Phe Glu
            100             105             110

Ser Ala Ala Tyr Pro Gly Trp Phe Leu Cys Thr Val Pro Glu Ala Asp
        115             120             125

Gln Pro Val Arg Leu Thr Gln Leu Pro Glu Asn Gly Gly Trp Asn Ala
    130             135             140

Pro Ile Thr Asp Phe Tyr Phe Gln Gln Cys Asp
145             150             155
```

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<210>   6
<211>   178
<212>   PRT
<213>   Rattus rattus
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2z

a2

<400> 6

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Met Glu Ile Cys Arg Gly Pro Tyr Ser His Leu Ile Ser Leu Leu Leu
1               5               10              15

Ile Leu Leu Phe Arg Ser Glu Ser Ala Gly His Pro Ala Gly Lys Arg
            20              25              30

Pro Cys Lys Met Gln Ala Phe Arg Ile Trp Asp Thr Asn Gln Lys Thr
        35              40              45

Phe Tyr Leu Arg Asn Asn Gln Leu Ile Ala Gly Tyr Leu Gln Gly Pro
    50              55              60

Asn Thr Lys Leu Glu Glu Lys Ile Asp Met Val Pro Ile Asp Phe Arg
65              70              75              80

Asn Val Phe Leu Gly Ile His Gly Gly Lys Leu Cys Leu Ser Cys Val
            85              90              95

Lys Ser Gly Asp Asp Thr Lys Leu Gln Leu Glu Glu Val Asn Ile Thr
            100             105             110

Asp Leu Asn Lys Asn Lys Glu Glu Asp Lys Arg Phe Thr Phe Ile Arg
        115             120             125

Ser Glu Thr Gly Pro Thr Thr Ser Phe Glu Ser Leu Ala Cys Pro Gly
    130             135             140

Trp Phe Leu Cys Thr Thr Leu Glu Ala Asp His Pro Val Ser Leu Thr
145             150             155             160

Asn Thr Pro Lys Glu Pro Cys Thr Val Thr Lys Phe Tyr Phe Gln Glu
            165             170             175

Asp Gln
```

<210> 7
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<212> PRT
<213> Sus scrofa

<400> 7

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Met Glu Val Ser Arg Tyr Leu Cys Ser Tyr Leu Ile Ser Phe Leu Leu
1               5               10              15

Phe Leu Phe His Ser Glu Thr Ala Cys His Pro Leu Gly Lys Arg Pro
            20              25              30
```

a2

Cys Arg Met Gln Ala Phe Arg Ile Trp Asp Val Asn Gln Lys Thr Phe
        35   40   45

Tyr Leu Arg Asn Asn Gln Leu Val Ala Gly Tyr Leu Gln Gly Pro Asn
    50   55   60

Thr Lys Leu Glu Glu Lys Ile Asp Val Val Pro Val Glu Pro His Phe
65   70   75   80

Val Phe Leu Gly Ile His Gly Gly Lys Leu Cys Leu Ser Cys Val Lys
            85   90   95

Ser Gly Asp Glu Met Lys Leu Gln Leu Asp Ala Val Asn Ile Thr Asp
            100   105   110

Leu Arg Lys Asn Ser Glu Gln Asp Lys Arg Phe Thr Phe Ile Arg Ser
        115   120   125

Asp Ser Gly Pro Thr Thr Ser Phe Glu Ser Ala Ala Cys Pro Gly Trp
    130   135   140

Phe Leu Cys Thr Ala Leu Glu Ala Asp Gln Pro Val Gly Leu Thr Asn
145   150   155   160

Thr Pro Lys Ala Ala Val Lys Val Thr Lys Phe Tyr Phe Gln Gln Asp
            165   170   175

Gln

<210>   8
<211>   177
<212>   PRT
<213>   Homo sapiens

<400>   8
Met Glu Ile Cys Arg Gly Leu Arg Ser His Leu Ile Thr Leu Leu Leu
1   5   10   15

Phe Leu Phe His Ser Glu Thr Ile Cys Arg Pro Ser Gly Arg Lys Ser
            20   25   30

Ser Lys Met Gln Ala Phe Arg Ile Trp Asp Val Asn Gln Lys Thr Phe
        35   40   45

Tyr Leu Arg Asn Asn Gln Leu Val Ala Gly Tyr Leu Gln Gly Pro Asn
    50   55   60

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Q2

```
Val Asn Leu Glu Glu Lys Ile Asp Val Val Pro Ile Glu Pro His Ala
65              70                  75                  80

Leu Phe Leu Gly Ile His Gly Gly Lys Met Cys Leu Ser Cys Val Lys
                85                  90                  95

Ser Gly Asp Glu Thr Arg Leu Gln Leu Glu Ala Val Asn Ile Thr Asp
            100                 105                 110

Leu Ser Glu Asn Arg Lys Gln Asp Lys Arg Phe Ala Phe Ile Arg Ser
            115                 120                 125

Asp Ser Gly Pro Thr Thr Ser Phe Glu Ser Ala Ala Cys Pro Gly Trp
    130                 135                 140

Phe Leu Cys Thr Ala Met Glu Ala Asp Gln Pro Val Ser Leu Thr Asn
145                 150                 155                 160

Met Pro Asp Glu Gly Val Met Val Thr Lys Phe Tyr Phe Gln Glu Asp
                165                 170                 175

Glu


<210>   9
<211>   159
<212>   PRT
<213>   Homo sapiens

<400>   9
Met Ala Leu Glu Thr Ile Cys Arg Pro Ser Gly Arg Lys Ser Ser Lys
1               5                   10                  15

Met Gln Ala Phe Arg Ile Trp Asp Val Asn Gln Lys Thr Phe Tyr Leu
                20                  25                  30

Arg Asn Asn Gln Leu Val Ala Gly Tyr Leu Gln Gly Pro Asn Val Asn
            35                  40                  45

Leu Glu Glu Lys Ile Asp Val Val Pro Ile Glu Pro His Ala Leu Phe
    50                  55                  60

Leu Gly Ile His Gly Gly Lys Met Cys Leu Ser Cys Val Lys Ser Gly
65                  70                  75                  80

Asp Glu Thr Arg Leu Gln Leu Glu Ala Val Asn Ile Thr Asp Leu Ser
                85                  90                  95
```

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G2

```
Glu Asn Arg Lys Gln Asp Lys Arg Phe Ala Phe Ile Arg Ser Asp Ser
            100             105             110

Gly Pro Thr Thr Ser Phe Glu Ser Ala Ala Cys Pro Gly Trp Phe Leu
            115             120             125

Cys Thr Ala Met Glu Ala Asp Gln Pro Val Ser Leu Thr Asn Met Pro
            130             135             140

Asp Glu Gly Val Met Val Thr Lys Phe Tyr Phe Gln Glu Asp Glu
145             150             155
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<210>  10
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<213>  Artificial sequence

<220>
<223>  Primer

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<210>  11
<211>  22
<212>  DNA
<213>  Artificial sequence

<220>
<223>  Primer

<400>  11
gagcccacaa ggataaccca gg                                          22


<210>  12
<211>  1366
<212>  DNA
<213>  Homo sapiens

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ctccacccca ctctcagggc tgggaattgt tgtggctcag ctatttgggg gaatctgttt   120

tccagtttct cagaaccagc gcaagcacac acatcccagg ctcacacccc tggtggctgg   180

acttgctccc ggatagcctc agtcagggag aggcagagct gcctggagcc tgctgggctg   240

gtggaagcct tggtggattc tggcaggcca attatagatg aatggcctgg ggaacccgtg   300

cagcccgtgg ctgagtggtt ctaagcccca gcacgtctgc ctctggcttc acccagcctc   360

cttttctaac tgcccttctc tcctccccat cagtgaggac cagacaccac tgattgcagg   420

aatgtgttcc ctccccatgg caagatacta cataattaaa tatgcagacc agaaggctct   480

atacacaaga gacggccagc tgctggtggg agatcctgtt gcagacaact gctgtgcaga   540
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-9-

az

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gaagatctgc acacttccta acagaggctt ggaccgcacc aaggtcccca ttttcctggg      600

gatccaggga gggagccgct gcctggcatg tgtggagaca gaagaggggc cttccctaca      660

gctggaggat gtgaacattg aggaactgta caaaggtggt gaagaggcca cacgcttcac      720

cttcttccag agcagctcag gctccgcctt caggcttgag gctgctgcct ggcctggctg      780

gttcctgtgt ggcccggcag agccccagca gccagtacag ctcaccaagg agagtgagcc      840

ctcagcccgt accaagtttt actttgaaca gagctggtag ggagacagga aactgcgttt      900

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tcccccgaaa tatgtccaca tcctaatccc aagatctgtg catatgttac catacatgtc     1020

caaagaggtt ttgcaaatgt gattatgtta aggatcttga aatgaggaga caatcctggg     1080

ttatccttgt gggctcagtt taatcacaag aaggaggcag gaagggagag tcagagagag     1140

aatggaagat accatgcttc taattttgaa gatggagtga ggggccttga gccaacatat     1200

gcttgtgttt ttagaaggag gaaaagccaa gggaacggat tctcctctat agtctccgga     1260

aggaacacag ctcttgacac atggatttca gctcagtgac acccatttca gacttctgac     1320

ctccacaact ataaataat aaacttgtgt tattgtaaac ctctgg                     1366
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<213> Homo sapiens

<400> 13

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Met Asn Gly Leu Gly Asn Pro Cys Ser Pro Trp Leu Ser Gly Ser Lys
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Pro Gln His Val Cys Leu Trp Leu His Pro Ala Ser Phe Ser Asn Cys
            20                  25                  30


Pro Ser Leu Leu Pro Ile Ser Glu Asp Gln Thr Pro Leu Ile Ala Gly
        35                  40                  45


Met Cys Ser Leu Pro Met Ala Arg Tyr Tyr Ile Ile Lys Tyr Ala Asp
    50                  55                  60


Gln Lys Ala Leu Tyr Thr Arg Asp Gly Gln Leu Leu Val Gly Asp Pro
65                  70                  75                  80


Val Ala Asp Asn Cys Cys Ala Glu Lys Ile Cys Thr Leu Pro Asn Arg
                85                  90                  95


Gly Leu Asp Arg Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly Gly
                100                 105                 110
```

-10-

a2   Ser Arg Cys Leu Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu Gln
              115   120   125

  Leu Glu Asp Val Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu Ala
      130   135   140

  Thr Arg Phe Thr Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg Leu
  145   150   155   160

  Glu Ala Ala Ala Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro
           165   170   175

  Gln Gln Pro Val Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg Thr
          180   185   190

  Lys Phe Tyr Phe Glu Gln Ser Trp
         195   200

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  <213> Homo sapiens

  <400> 14
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  tccagtttct cagaaccagc gcaagcacac acatcccagg ctcacacccc tggtggctgg   180

  acttgctccc ggatagcctc agtcagggag aggcagagct gcctggagcc tgctgggctg   240

  gtggaagcct tggtggattc tggcaggcca attatagacg aatggcctgg ggaacccgtg   300

  cagcccgtgg ctgagtggtt ctaagcccca gcacgtctgc ctctggcttc acccagcctc   360

  cttttctaac tgcccttctc tcctccccat cagtgaggac cagacaccac tgattgcagg   420

  aatgtgttcc ctccccatgg caagatacta cataattaaa tatgcagacc agaaggctct   480

  atacacaaga gacggccagc tgctggtggg agatcctgtt gcagacaact gctgtgcaga   540

  gaagatctgc acacttccta acagaggctt ggaccgcacc aaggtcccca ttttcctggg   600

  gatccaggga gggagccgct gcctggcatg tgtggagaca aagaggggc cttccctaca   660

  gctggaggat gtgaacattg aggaactgta caaaggtggt gaagaggcca cacgcttcac   720

  cttcttccag agcagctcag gctccgcctt caggcttgag gctgctgcct ggcctggctg   780

  gttcctgtgt ggcccggcag agccccagca gccagtacag ctcaccaagg agagtgagcc   840

  ctcagcccgt accaagtttt actttgaaca gagctggtag ggagacagga aactgcgttt   900

  tagccttgtg cccccaaacc aagctcatcc tgctcagggt ctatggtagg cagaataatg   960

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a2 caaagaggtt ttgcaaatgt gattatgtta aggatcttga aatgaggaga caatcctggg 1080

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aatggaagat accatgcttc taattttgaa gatggagtga ggggccttga gccaacatat 1200

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<210> 15
<211> 5445
<212> DNA
<213> Homo sapiens

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tctgggcaca gctaccacac tgcccactgt cctgctgcta caaccaaaga agccccagtg   180

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agcagcattg acatcacctg gttgcatatt tgaaatgtac agtctcaggc cccaccccag   360

gcctgaaaaa ccagaatctg ttattttaac aagaactgca ggtggtttat atatttatta   420

ataagtgtga agaatggaat gaaagtacat cagttcccaa gcagcatggc tgattgctgg   480

aatcactcca agtcctactg aattagaacc ttcggcccag gaaatagtaa ttatacagag   540

tcccccaggt gatgcagatg ggcaggcaca tttaggagcc aatgacttta actgaacact   600

tcatttaaaa aatgttgaaa cttacttgat actacaaagg aaattcatgt tcattatagg   660

aaaatgttga tatgtttaaa aaattactca taaagccata ggtaagtggt gcaacaacac   720

gagtaacata tctatgtatg tgtctctatg tgtggattta aatagaatta cagtgtacac   780

ttgatttata atctgcattt ttcacctaat atattttgaa aatttttatg tcctaaaaca   840

agcttctata atatcatctt taacaaacac atacatcctt atttattgaa ttttgctata   900

atttcttagc caattaccta ttactgaaaa ttcagatttt tttcaacttc ttgctattgt   960

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aagagtaagg gaaacacatg caatcacaaa gtatacagaa tgctttaaga ctttcattca 1080

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a2

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-15-

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<213> Mus musculus

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<212> PRT
<213> Mus musculus

<400> 18

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Asp Ser Asp Asn Tyr Ser Pro Glu Lys Val Cys Ile Leu Pro Asn Arg
            35              40              45

Gly Leu Asp Arg Ser Lys Val Pro Ile Phe Leu Gly Met Gln Gly Gly
    50              55              60

Ser Cys Cys Leu Ala Cys Val Lys Thr Arg Glu Gly Pro Leu Leu Gln
65                  70              75                      80

Leu Glu Asp Val Asn Ile Glu Asp Leu Tyr Lys Gly Gly Glu Gln Thr
                85              90                  95

Thr Arg Phe Thr Phe Phe Gln Arg Ser Leu Gly Ser Ala Phe Arg Leu
            100             105             110

Glu Ala Ala Ala Cys Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro
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-18-

<220>
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            20   25   30

Leu Glu Glu Lys Ile Asp Val Val Pro Ile Glu Pro His Ala Leu Phe
            35   40   45

Leu Gly Ile His Gly Gly Lys Met Cys Leu Ser Cys Val Lys Ser Gly
        50   55   60

Asp Glu Thr Arg Leu Gln Leu Glu Ala Val Asn Ile Thr Asp Leu Ser
65   70   75   80

Glu Asn Arg Lys Gln Asp Lys Arg Phe Ala Phe Ile Arg Ser Asp Ser
                85   90   95

Gly Pro Thr Thr Ser Phe Glu Ser Ala Ala Cys Pro Gly Trp Phe Leu
                100   105   110

Cys Thr Ala Met Glu Ala Asp Gln Pro Val Ser Leu Thr Asn Met Pro
            115   120   125

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<210> 22
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<212> PRT
<213> Homo sapiens

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            20   25   30

-19-

a2

Ala Glu Lys Ile Cys Ile Leu Pro Asn Arg Gly Leu Asp Arg Thr Lys
        35   40   45

Val Pro Ile Phe Leu Gly Ile Gln Gly Gly Ser Arg Cys Leu Ala Cys
        50   55   60

Val Glu Thr Glu Glu Gly Pro Ser Leu Gln Leu Glu Asp Val Asn Ile
65   70   75   80

Glu Glu Leu Tyr Lys Gly Gly Glu Glu Ala Thr Arg Phe Thr Phe Phe
                85   90   95

Gln Ser Ser Ser Gly Ser Ala Phe Arg Leu Glu Ala Ala Ala Trp Pro
            100   105   110

Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro Gln Gln Pro Val Gln Leu
        115   120   125

Thr Lys Glu Ser Glu Pro Ser Ala Arg Thr Lys Phe Tyr Phe Glu Gln
    130   135   140

Ser Trp
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<210> 23
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<212> PRT
<213> Homo sapiens

<400> 23
Val Arg Ser Leu Asn Cys Thr Leu Arg Asp Ser Gln Gln Lys Ser Leu
1   5   10   15

Val Met Ser Gly Pro Tyr Glu Leu Lys Ala Leu His Leu Gln Gly Gln
            20   25   30

Asp Met Glu Gln Gln Val Val Phe Ser Met Ser Phe Val Gln Gly Glu
        35   40   45

Glu Ser Asn Asp Lys Ile Pro Val Ala Leu Gly Leu Lys Glu Lys Asn
        50   55   60

Leu Tyr Leu Ser Cys Val Leu Lys Asp Asp Lys Pro Thr Leu Gln Leu
65   70   75   80

Glu Ser Val Asp Pro Lys Asn Tyr Pro Lys Lys Lys Met Glu Lys Arg
                85   90   95

Phe Val Phe Asn Lys Ile Glu Ile Asn Asn Lys Leu Glu Phe Glu Ser
                100   105   110

Ala Gln Phe Pro Asn Trp Tyr Ile Ser Thr Ser Gln Ala Glu Asn Met
            115   120   125

Pro Val Phe Leu Gly Gly Thr Lys Gly Gly Gln Asp Ile Thr Asp Phe
        130   135   140

Thr Met Gln Phe Val Ser Ser
145   150

<210>   24
<211>   148
<212>   PRT
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1   5   10   15

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Cys Cys Ala Glu Lys Ile Cys Ile Leu Pro Asn Arg Gly Leu Asp Arg
        35   40   45

Thr Lys Val Pro Ile Phe Leu Gly Ile Gln Gly Gly Ser Arg Cys Leu
    50   55   60

Ala Cys Val Glu Thr Glu Glu Gly Pro Ser Leu Gln Leu Glu Asp Val
65   70   75   80

Asn Ile Glu Glu Leu Tyr Lys Gly Gly Glu Glu Ala Thr Arg Phe Thr
            85   90   95

Phe Phe Gln Ser Ser Ser Gly Ser Ala Phe Arg Leu Glu Ala Ala Ala
            100   105   110

Trp Pro Gly Trp Phe Leu Cys Gly Pro Ala Glu Pro Gln Gln Pro Val
        115   120   125

Gln Leu Thr Lys Glu Ser Glu Pro Ser Ala Arg Thr Lys Phe Tyr Phe
        130   135   140

Glu Gln Ser Trp
145

a2

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<213>  Artificial sequence

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